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"THE SEARCH FOR GOOD WINE"

by

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(Published in IDEA AND EXPERIMENT)

Volume 1, Number 4

June, 1952

(Fine wine is the product of much more than a good vintage year. Here, Davis's Amerine, the state's leading authority on wine production, tells how to take advantage of his life's work - the improvement of wine quality in California.)

There have been many confused ideas about the proper use of the various types of wine and the relative quality of the wines of different producers and regions. Equally unreliable have been some of the beliefs of vintners about the effects of soil, climate or irrigation on the composition of the grape, and the proper methods of making wine. But we are learning - the consumer and the producer too. The author, in his sixteen years of study of wines in the College of Agriculture, has seen great advances, both in public awareness of the quality and charm of wine and in the techniques of making that venerable beverage.

Nearly three and one-half billion gallons of wine are produced each year from about twenty million acres of grapes in the world. Even such a relatively "dry" country as the United States produces about one hundred and fifty million gallons a year. Ninety per cent of this country's production is centered in California, where wine making is an industry of considerable economic importance. California is also her own best customer, polishing off nearly three gallons per capita every year compared to the national average of less than one gallon.

California wines and European wines are more akin to each other than either is to eastern United States' wines - at least as far as botanical origin and flavor are concerned. The main difference between California and "eastern" wine lies in the species of grapes used. The eastern wines are the product of native species and hybrids most of which have, more or less, the characteristic flavor of Concord grapes - methyl anthranilate being the revealing component. The native species of grapes are used for wine only in the eastern United States. In Europe and other grape-growing regions, the same species of grapes is used as in California - the *Vitis vinifera*.

But grapes even of the same species are not all the same. Possibly 6,000 different varieties of *Vitis vinifera* and 1,500 of the several "eastern" species of *Vitis* are known. Each variety differs from the others in flavor, color, size and shape of berry, sugar and acid content of the juice, time of maturity, number of seeds, leaf shape and size, cluster shape and size. Each variety has, too, its own particular utility. For example, grapes of low acidity, while useful for eating, seldom make fine wines.

The character of the grape depends not only upon the variety of vine but also on the climate. Thus one of the reasons for the differences between the wines



of Germany and France is the environmental conditions under which the grapes are grown. A variety of red grape grown in a warm region will have less red color and less acidity but more sugar than the same variety grown in a cool region. Flavor and other constituents depend likewise on the climatic conditions under which the fruit is produced.

To advance our knowledge of climate's effects on the flavor of the grape beyond the level of guesswork, and to enable us to make well-founded recommendations to viticulturists about varieties suitable for different climates, the College of Agriculture has studied intensively the character of grapes grown in the various regions of California. We have found that our state has no less than five distinct climates markedly affecting the character of grapes grown within them, from the warm sugar-producing areas around Fresno, to the cooler hill regions of Santa Clara and Napa.

These varietal and regional tests should result in future plantings of more of the finer varieties in their proper climatic region. Over 5,000 experimental fermentations on nearly 200 varieties of grapes have been conducted at Davis on this project. In numerous articles and in several bulletins and books the members of the staff of the College of Agriculture have emphasized the importance of the best established principles and have introduced new ones which would produce the finest quality from our grapes.

Particular emphasis has been placed on proper pruning of the vines in order to produce crops of normal composition. Prompt harvesting when the grapes reach their optimum maturity is essential if the best wines are to be produced. Rapid crushing, cooling during fermentation, use of pure yeasts and prevention of excessive aeration are important factors for producing quality wines. Finally, it has been shown that the aging process should be designed for the type and quality of wine and the conditions under which it is to be stored.

Among the new procedures developed in the College have been the use of special yeasts (commonly called the "flor" yeast) for producing sherries. The usual California sherry achieves its character by baking, but the "flor" sherries have a special and delicate character which is appreciated by many. Even by baking it has been shown that lighter colored wines can be produced if aeration is restricted during heating. The difficulty of securing sufficient color extraction from the skins of low-color varieties in the warm regions has led to experiments showing the feasibility of color extraction by heat. More important, ever since work on wine was established at the University in 1880 by Dean Hilgard (at the direction of the legislature!) the College has emphasized the importance of quality. Chemical and organoleptic tests as methods for measuring quality have been used extensively.

Now, quality in wines is a very complex entity. In terms of the senses involved it is discerned by the optic nerve, by the olfactory and trigeminal nerves in the nose, by the tastebuds, to a minor extent by kinesthetic or "feeling" sensations, and by temperature reactions. While it is not possible to measure quantitatively the importance of each of these, trained tasters agree remarkably well in judging relative quality. Each wine must have an appropriate color, one which fits the type - light yellow for the dry whites, light amber for sherry, etc. It must appear brilliant; that is, without suspended material; an exception may be made for aged red wines, but these are not plentiful and the sediment can be separated from the wine by proper decanting. A wine should be balanced in acidity and tannin content and in dryness or sweetness, whichever is appropriate. The flavor, which is largely smell and partially "feel," must be clean. The "feel" itself should be



rounded and appropriate to the wine. If all of these factors are "right" the wine will leave a pleasant impression and be drinkable.

Even more than "drinkable" wine, good or fine wines must be of impeccable color and appearance and be absolutely free from off-odors. And, in addition, the wine must have such a volume of odor as to be capable of calling attention to itself; and odor and flavor must be of sufficient complexity and delicacy to hold one's interest. Good wine must be worth smelling - be free of foreign odors, have form and substance, provide nourishment for the olfactory nerve, enchant the mind with visions of the pleasurable taste to come. Odors, then, are not unlike the style of a novel - that method of writing the author uses to add interest to your reading. But, the comparison is not complete. The odor of a wine is part of what the wine is supposed to say. It may be style, but it is also a part of the plot. In other words, fine wine must "say" something worthwhile, must say it in such a way that one's attention is not detracted from the wine, and must create some intellectual curiosity on the part of the consumer. Are not these the same factors which differentiate the ordinary from the fine in literature, art, or music?<sup>1</sup>

In the finest California white table wines - Chardonnay, Pinot blanc, Sauvignon blanc, Semillon, Traminer, and White Riesling - one looks first for the distinctive though subtle odor of the variety. Their color should be a light to medium yellow but never brown which indicates over-oxidation. The flavor should be fruity, not flat. No trace of the ubiquitous sulfur dioxide odor should be found.

The great California red table wine is our Cabernet Sauvignon. The varietal odor of this grape is pronounced. No other red table wine improves so much by age. When young, 4 or 5 years, it may have an austere and even astringent flavor. With time this softens and the odor becomes more complex and entrancing. Authentic California vintages have shown improvement for as long as 15 and 20 years when stored under cool conditions. Very fine red table wines are also made from Gamay, Pinot noir and Zinfandel. The raspberry-like aroma of the Zinfandel is easily recognizable and is usually at its best during the first five years.

Two types of California sherry are produced: one by baking and the other by the "flor" yeast process already mentioned. Quality sherries can be made by both processes. In the usual sherries the baking should be done slowly and be followed by aging in wood. A wine with a delicate rancio (not rancid!) odor and a soft nutty flavor should result. Using the "flor" yeast process, wines with a distinct "flor" odor are desired. In fact, these sherries are usually marketed as "flor" sherries. They more nearly resemble the Spanish type. As an aperitif wine a dry sherry is preferred. Beware of the poor quality sherry which masks its poor quality with sugar and yet calls itself "dry." (Ditto for the so-called brut or extra dry champagnes one sometimes sees.)

Wine is the drink of civilized people, if their senses are trained and disciplined - trained to appreciate the best drink without the danger of the appetite's getting beyond control and disciplined to a critical appreciation of the complex interrelationships of the reactions of all the senses. To find and appreciate the best in wine one must be as intellectually curious as the seeker of quality in any other cultural field. The few simple tasting rules given above may serve as the elementary guide posts in one of life's more pleasant avocations - the search for good wine. Having found it we can say with Benjamin Franklin, "Wine is a constant proof that God loves us and wants to see us happy."

1 The wine awards at the California State Fair probably represent as good a quality rating of California wine as any now available. Copies of these awards may be obtained by writing to the California State Fair at Sacramento.